AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraphs beginning at page 1, lines 3-9, as follows:

FIELD ~~OF INVENTION~~

The present ~~invention~~ disclosure relates to a routing system, method and apparatus, in particular for an ad hoc based network in a mobile or static environment using route diversity together with a predictive routing model.

BACKGROUND ~~OF INVENTION~~

Please amend the paragraph beginning at page 2, line 35, as follows:

Packet based routing schemes often build ~~there~~ their communication network systems around a layered model, for instance the OSI reference model (Open Systems Interconnection). The communication software or hardware is divided into several smaller sub units, layers, working in a hierarchical manner. Information and communication control parameters are passed up and down locally and between the same layers between the sending and receiving ends. Each such layer is responsible for different tasks in the communication order. In respect to routing the first three layers according to the OSI reference model are the most important.

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Please amend the paragraphs beginning at page 8, lines 6-8, as follows:

SUMMARY ~~OF INVENTION~~

It is an object of <u>one or more non-limiting aspects</u> the present invention to provide an ad hoc routing method that reduces some of the above mentioned problems, by introducing a route-diversity method in collaboration with a predictive routing control.

Please amend the paragraph beginning at page 11, line 21, as follows:

This and other objects, features, functions, and benefits of the <u>non-limiting aspect(s) of the</u> present invention will become apparent with reference to the detailed description, which follows.

Please amend the paragraph beginning at page 11, line 26, as follows:

FIG. 1 is a schematic block diagram of some of the components <u>of an infrastructure element (or node)</u> and their respective role in an inter-layered concept of a preferred <u>non-limiting</u> embodiment of the invention.

Please amend the paragraph beginning at page 12, line 4, as follows:

FIG. 6 is a schematic illustration of a <u>non-limiting example</u> wireless ad hoc network topology.

***Please amend the paragraphs beginning at page 12, lines 10-15, as
follows:***

FIG. 8 is a schematic block diagram illustrating a non-limiting example
node in the wireless ad hoc network.

DETAILED DESCRIPTION ~~OF INVENTION~~

In FIG. 6, ~~the~~ a basic concept of a non-limiting example mobile multiple

hop wireless ad hoc network of the present invention is shown. A plurality of

nodes or infrastructure elements 601, 602, 603, 604 . . . 60n builds up an ad

hoc network 610 together by communicating with each other and forwarding

data traffic and control traffic for each other, in order to maintain the network

traffic between the communicating end nodes and intermediate nodes.

Sometimes one or several gateways 601 are present in an ad hoc network 610.

This gateway 601 acts as a link between for example a wireless ad hoc network

610 and a standard fixed IP network 620 (e.g. Internet). The connection 600 to

the standard IP network may be either a fixed line, using for example an

Ethernet network, or a fixed wireless connection using for example LMDS or

"Minilink" systems or similar technology.

***Please amend the paragraphs beginning at page 13, lines 1-15, as
follows:***

An infrastructure element or node 601, 602, 603, 604 . . . 60n, 800

comprise of at least processing means (801), storing means (802),

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communication means 805 and routing means 101, 803 as illustrated in Figs. 1 and 8. The communication means 805 may be wireless 806 or using a wired connection 806, however in a preferred embodiment the communication means 805 is wireless. The routing means 101, 803 is implemented in a routing algorithm, often using a software program, and normally both the routing means 101, 803 and/or communication means 805 are often embedded in the infrastructure element 800, but they may also be located in an external device connected to an infrastructure element 601, 602, 603, 604 . . . 60n, 800 through a connector 804. An example of this arrangement may be a PDA that has an external device connected to the PDA; this external device handles the routing and/or communication means for enabling the PDA to be part of an ad hoc network 610 or a wireless network in general.

In FIG. 1 some of the key components in the routing infrastructure element 800 and their respective roles are shown together with the data and control traffic flow patterns within a layered network reference model, e.g. the OSI model. The first layer 104 (L1) is responsible for the physical transmission of data bits and in this layer there may be functionality to measure and obtain the status and quality of the properties of the physical medium, for example the wireless radio channel status. This information is passed on to the third layer 106 (L3) to a link status monitor 102.

Please amend the paragraph beginning at page 14, line 32, as follows:

The second layer 105 (L2) (see Fig. 1) handles the transmission control of

larger pieces of information and takes care of error handling; detection and

appropriate responses to errors. It may also provide the third layer 106 with

information about link quality since it handles the error detection. For

example, information about the number of NACK or ACK 408, 409, and 410

signals may be passed on to the link status monitor 102. An interpretation of

these parameters may be that an increase in the number of NACK signals

would indicate that the link is reducing in quality, while an increase of ACK

signals would indicate that the radio channel is improving in quality.

Please amend the paragraph beginning at page 17, line 11, as follows:

Signal strength or L2 quality in Table 1 refer to average levels, which

means that they represent channel quality during a relatively long time range,

while f_D or VS are defined in the short time range. The definition of long and

short in this respect depend on the system where embodiment(s) of this

invention is implemented. Long time range may be defined as covering the

range of several traffic frames, while a short time range my be defined as

covering the range of several transmitted symbols or bits. Therefore fast

channel variations in short time may cause random bit errors that may be

recovered by FEC techniques (forward Error Correction). Since FEC carries an

information part (sometimes called systematic bits) and its parity part using

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different time instants. If the time instants are separated enough so there is no time channel correlation between the two instants, the FEC may provide a time-diversity effect; in which either the information part, or the parity part may survive fading. The FEC function may then recover the correct information.

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